

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

ANNUAL REPORT TO COOPERATORS
FROM THE
SIERRA NATIONAL FOREST
FOR 1949



BUREAU OF
Entomology and Plant Quarantine
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BERKELEY, CALIF.

SIERRA NATIONAL FOREST

REPORT TO COOPERATORS

--1949--

Our annual report to Cooperators will bring you up to date on activities of the Forest -- your Forest -- during 1949.

I know you will be interested in a concise statement of management policy. Policy excerpts from various levels of administration are quoted below:

1. Extract from Organic Administration Act, June 4, 1897.

"--set aside and reserved as national forests--
for the purpose of securing favorable conditions of
water flows, and to furnish a continuous supply of
timber for the use and necessities of the citizens
of the United States; --"

2. Extract from Basic Policy letter from the Secretary of
Agriculture to the Forester, February 1, 1905.

"--all the resources, including water, wood, and forage
are for use only under such restrictions as a thorough,
prompt, and businesslike administration requires and in
a manner that will insure the permanence of the resources
and provide the greatest good of the greatest number in
the long run."

3. Extract from Sierra National Forest Land Use Policy - 1948.

"Efficient protection and management of the public re-
sources, water, timber, grazing, recreation, within the
Sierra National Forest for the maximum enjoyment and
utilization of those resources by Forest users and adjacent
San Joaquin Valley residents - - - . Individual
interests subordinated to group or broad public interests
as provided for in the Organic Administration Act and the
Basic Policy of the Forest Service".

Your comments on this basic policy or any portion of the report
are invited.

Sincerely yours,

BYRON B. BEATTIE

BYRON BEATTIE
Forest Supervisor

INDEX

- I. Water
- II. Timber
- III. Forage and Livestock
- IV. Recreation and Wildlife
- V. Fire Control
- VI. National Forest Facilitating Improvement
- VII. Organization
- VIII. Financial Statement

TABLE I
WATER SHEDS OF THE SIERRA NATIONAL FOREST

(Approximations Only)

Drainage Basin	Sq. Miles of Drainage	Sq. Miles in Sierra Forest	Basin Runoff Acre Ft.	Runoff Sierra Acre Ft.	Power 1000 KWH	No. of Power Plants Inside Sierra Forest
Merced	1,054	177	1,020,000	171,000	85,265	0
Chowchilla and Fresno	270	66	120,000	30,000		0
San Joaquin	1,631	1,467	1,820,000	1,638,000	3,070,704	10
Kings	1,694	893	1,925,000	1,314,500	192,735	1
<u>Total</u>	<u>4,649</u>	<u>2,603</u>	<u>4,885,000</u>	<u>3,153,500</u>	<u>3,348,704</u>	<u>11</u>

The entire surface runoff plus additional pumped water is used for domestic and irrigation use during the summer months. Practically all of the flow - summer and winter - is used beneficially for agricultural and human consumption.

I. WATER:

Increased demands for downstream uses of water, together with the significant decrease in levels of ground water in adjacent valley areas, have brought added recognition to the importance of proper watershed management.

Pressures for additional municipal and agricultural supplies, resulting from major population increases, dictate the need for more intensive upstream management practices. To the extent possible under current appropriations, custodial and protective management, is being supplemented by research and management effort directed at an increased yield of useable water.

- A. Corrective Measures: Soil stabilization and erosion control structures were constructed on 300 acres of high mountain meadows in connection with the commercial grazing of livestock. Areas treated had active erosion channels which resulted in loss of soil, ground cover, and water holding capacity. Fencing and closer control of use were initiated in order to protect the new structures and to prevent recurrence of erosion channels.

Trees were planted on approximately 35 acres of burned-over land in the Blue Canyon area. Twenty thousand trees were planted in this area as a reforestation measure and will contribute directly to improved conditions of the watershed.

- B. Stream Surveys: For the second year a group, representing agriculture, power, recreation, and industrial interests, joined with the Forest Service and the State Chamber of Commerce in a field survey of upstream water problems, in the Granite Creek drainage of the San Joaquin River. Principal consideration was given to stream flow stabilization in a manner consistent with the requirements of all water users.
- C. Hydro-electric Power: Power production from the watersheds as shown in Table I has been supplemented by extensive plant developments and maintenance at the Big Creek plant of the Southern California Edison Company. The same Company is now well along in developing a new project on the San Joaquin River, approximately five miles inside the Forest boundary.

This project, known as Big Creek #4 and scheduled for completion during 1951, will be capable of producing an additional 112,640 horse power of electric energy. Structures will include a dam 228 ft. high, a lake five miles long, tunnels, powerhouse, and necessary housing for operating and maintenance personnel.

In addition to these active projects, the Federal Power Commission is now considering applications for full utilization of the power potential on the North Fork of the Kings River. It is estimated that this stream, together with Dinkey Creek, will eventually produce over 300,000 KW of electric energy.

II. TIMBER:

A. Management Plan Progress:

Management plans are now being rewritten, and revised, for the Chiquito Basin and Patterson Mountain Working Circles. Both of these areas are still covered with virgin timber and are scheduled for harvesting operations upon completion of access roads into the areas.

B. Cultural Treatment:

(1) Reforestation

Summary of Planting
Sierra National Forest
1943 - 1949

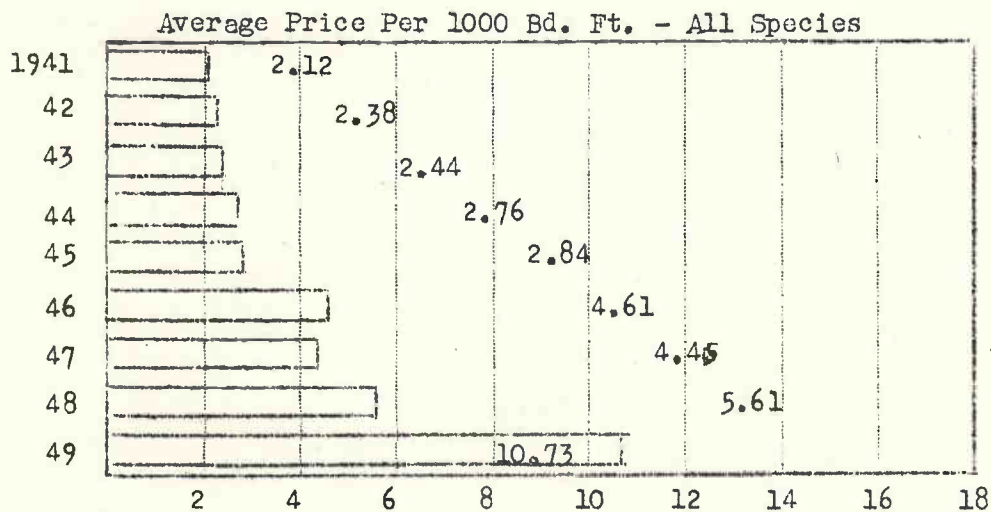
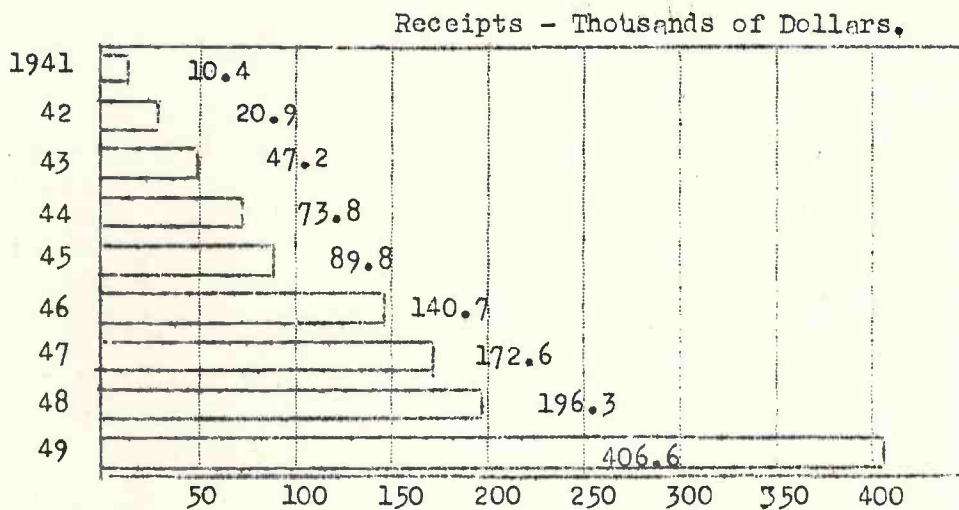
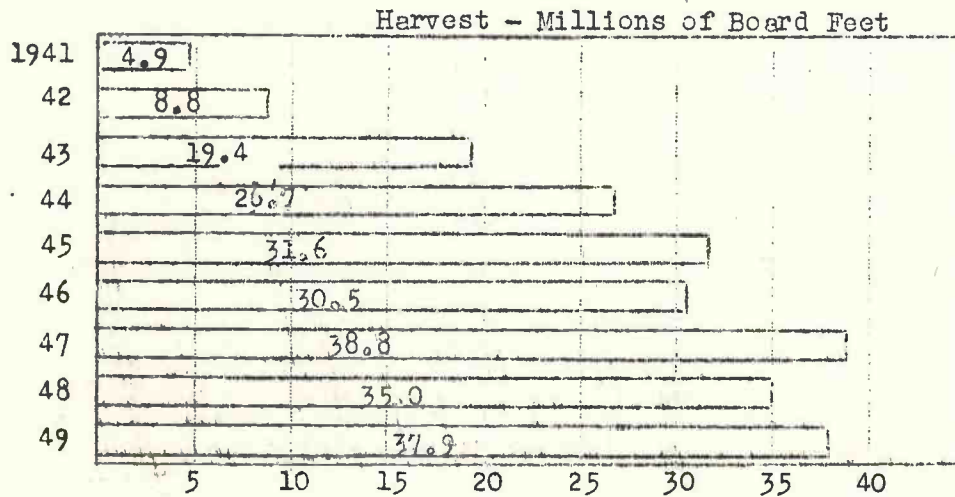
<u>Fiscal Year</u>	<u>Trees Planted</u>
1949	20,000
1948	66,500
1947	10,350
1946	6,000
1945	- - -
1944	50,000
1943	39,900

1949 planting was limited to the Blue Canyon burn near Bretz Mill, Fresno County. 5000 one year old seedlings were planted in the spring and 15,000 two year old seedlings were planted in the fall. During the spring of 1950 an additional 400,000 seedlings will complete the reforestation work in the burn.

(2) Timber Stand Improvement:

Funds for improvement of the growth conditions in cut-over stands have been collected on all sale areas as authorized by Congress. These funds are used to improve the quality and quantity of lumber produced in future crops. During 1949, 3,226 acres were treated.

TABLE II
COMPARISON OF TIMBER HARVEST AND RECEIPTS
SIERRA NATIONAL FOREST 1941 - 1949



Studies in technique of improved forest culture are being conducted in connection with all stand improvement work.

(3) White Pine Blister Rust Control:

Three camps totaling 150 men, plus several small contractors eradicated gooseberry and currant plants from 6,047 acres during 1949. This brings the total area on the Forest so treated to 54,117 acres. This work is aimed at removal of one of the hosts of the Blister Rust, which has destroyed vast stands of timber in the northwest. The fungus has been found as far south as Plumas County.

(4) Forest Insects:

A by-product of recent dry years is the substantial increase in insect population. Three areas of near epidemic proportions, Bass Lake, Fence Meadow, and Chiquito Basin are being closely watched. If losses develop as anticipated, aggressive control measures will be initiated during the early spring.

C. HARVESTING OPERATION:

Table II, facing, shows the trend of timber sale activities on National Forest lands within the Sierra National Forest during recent years. The general trend towards increased activity on National Forest lands is generally the result of diminished private sources and an increased demand for lumber. Production is still well below the sustained capacity of the Forest (estimated at 75-90 million feet per year) and will gradually increase as access roads are constructed into new areas. These areas at present are in a static condition with natural losses, insect - fire-rot, equalling and in some cases exceeding growth.

The total receipts and average selling prices are quite significant. Selling prices are reached through an appraisal method which considers manufacturing costs and selling prices of finished lumber. The sharp increase in price during 1949 resulted from removal of ceiling prices on lumber and completion of long term contracts. Future stumpage prices will depend on the cost of production, selling price relationship

Christmas tree sales, totaling 8000 trees at a value of \$5,889.00 were limited to areas where their removal would improve the residual stand.

A small amount of salvage was realized through the sale of dead trees for posts, shakes, and similar wood products.

III. FORAGE AND LIVESTOCK:

Paid permits were issued to 116 permittees, covering 9,795 head of mature cattle; 4,750 head of sheep, and 480 head of pack stock.

In addition to these paid permits, an estimated 2,896 head of privately owned stock were used on the Forest by fishermen and hunters. Months of feed utilized were:

Cattle and Horses	34,770 animal months
Sheep	17,625 animal months

In addition to the above, non-use permits for the convenience of permittees were granted for 1241 head, amounting to 2836 animal months of preference stock. Non-use status entitles preference permit holders to priority consideration for available range the following year.

The primary objective in management of the forage resource is to harvest the forage crop without damaging the watershed, the productive capacity of the soil, or the residual cover. In spite of the non-use shown above, some of our ranges continue to show rather serious downward trends. Better management, improved growing conditions, and rehabilitation measures are partially successful in checking this trend.

During 1950, all questionable ranges will be surveyed in company with the stockmen, to arrive at a rate of stocking which will maintain the ranges in a satisfactory condition.

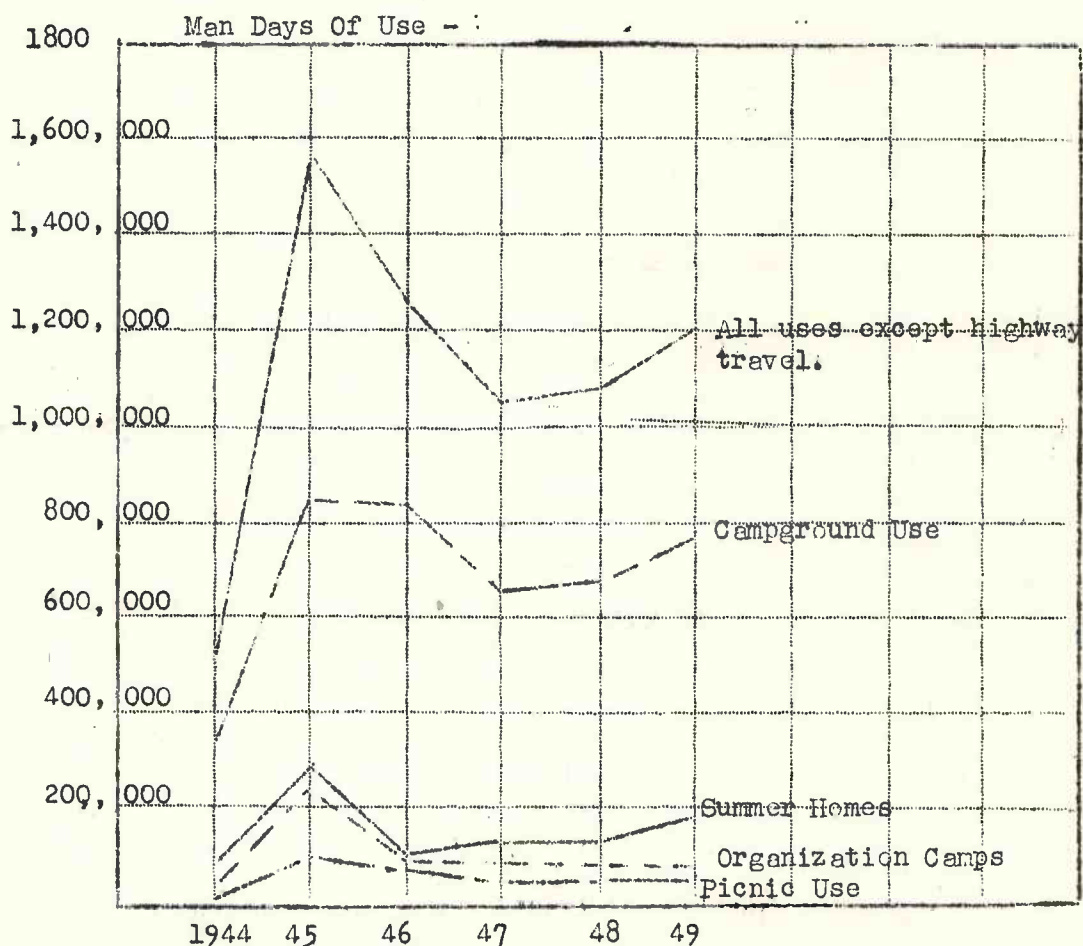
IV. RECREATION AND WILDLIFE:

Recreation use in the Sierra is showing a steady increase along with population increases throughout the State. Trends are shown graphically for the principal types of use.

RECREATION USE TRENDS BY TYPE

SIERRA NATIONAL FOREST

1944 - 1949



Included in the upper curve are use figures for winter sports, resorts, and wilderness areas.

Facilities to meet this expanding recreation use within the Forest have not been expanded since the emergency work period of CCC days. In fact, funds have not been made available to properly maintain existing structures and many are barely useable.

The most striking example of inadequate facilities is at Bass Lake, where campground facilities for approximately 2000 persons handle an average of 2500 persons on week days, 5000 persons over normal week ends, and as high as 12,000 persons over peak periods, such as the Fourth of July.

Recreational developments throughout the Forest consist of improved campgrounds with facilities for 75,000 persons, seven group picnic areas, and ten swimming areas. Much of our recreation use, particularly hunting and fishing, is in areas which have no sanitary or camp improvements.

With increased demands on water supply, the problem of sanitation is becoming critical. Unless improved sanitation occurs, it is obvious that recreation use of areas such as Huntington and Bass Lake must be reduced.

Use of the High Sierra (393,945 acres) and Mt. Dana, Minarets (87,140 acres) wilderness areas is well above previous years. Use in some portions of these scenic, roadless areas is so intense that forage supplies are inadequate.

Studies are under way to determine a method of distributing this use without destroying the individual freedom of action, but at the same time, preventing depletion and over use of the more popular camp sites.

Wildlife population has remained substantially constant. There is evidence of increase in porcupine population and some control work may be necessary in the near future.

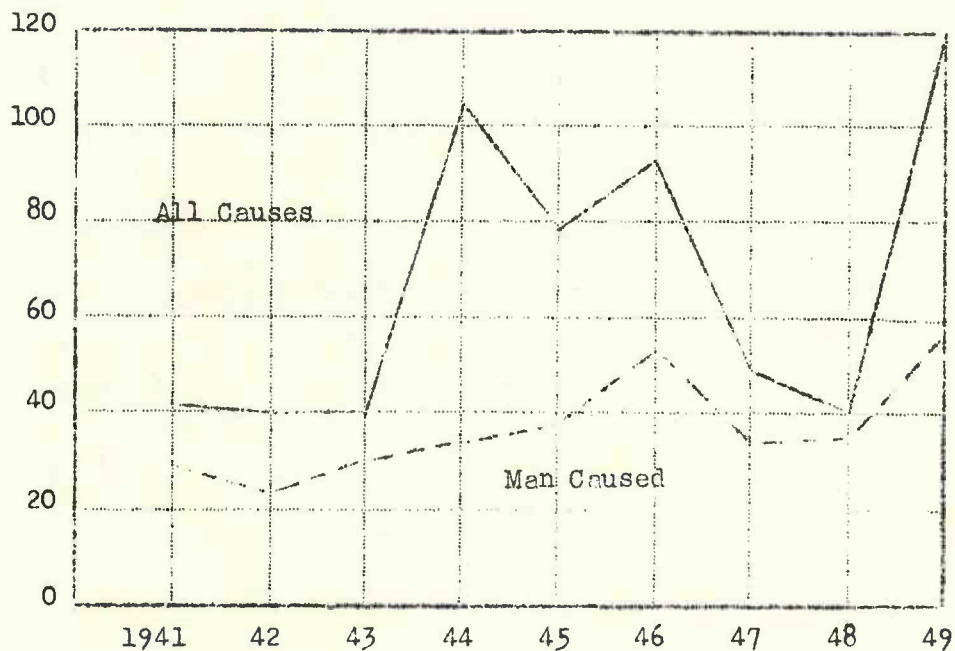
Hunting and fishing continue to be one of the primary attractions of recreational visitors to the Sierra Forest. Hunter and fisherman effort increased slightly over previous years, but deer kill and fisherman success remained unchanged.

V. FIRE CONTROL:

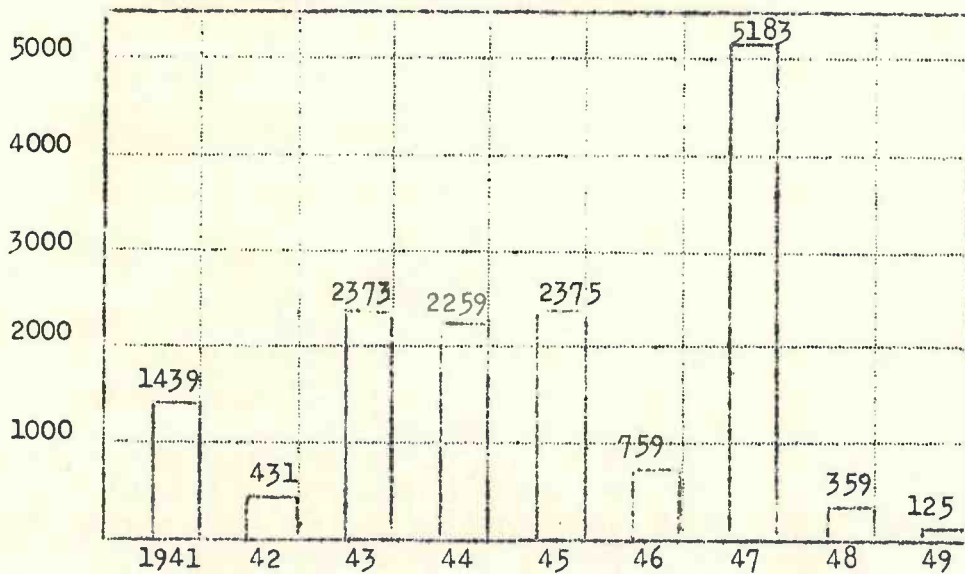
Losses from fire during 1949 were at an all time low, showing 125 acres burned. Number of fires was well above the five year average. Fire danger, as measured from weather and fuel moisture indexes, was more critical than usual. Comparison of recent trends for the Sierra area are shown on the following table:

TABLE NO. III

NUMBER OF FIRES BY YEARS
SIERRA NATIONAL FOREST



AREA BURNED BY YEARS - ACRES



Man-caused fires remain the most damaging since lightening fires generally occur in the higher elevations and are usually accompanied by some rain.

Fishermen, hunters, and children were the worst offenders during 1949. Specific causes were: Smoker, 23; Campfires, 5; Debris Burning, 3; Timber men, 2; and Miscellaneous causes, 24. Miscellaneous causes include burning buildings, burning vehicles, etc.

Cooperation in fire prevention on the part of newspapers, radio stations, sportsmen and civic organizations, was very good and undoubtedly contributed to the low 1949 fire loss.

The rise in number of man-caused fires calls for increased effort on the part of all Forest users, cooperating agencies, and protection personnel. It is a joint problem and the values involved deserve the best efforts of all.

VI. NATIONAL FOREST FACILITATING IMPROVEMENT:

Summary of Major Improvements:

Roads	941 miles
Horse & Foot Trails	1400 miles
Buildings (Residence, barns, garages, etc.)	190
Bridges	57
Telephone Lines	550 miles
Radio Stations & Mobile Units.	60 units

New Construction:

Construction and preparation for construction consists of:

- (1) Clearing 8 $\frac{1}{4}$ miles of right-of-way on the Chiquita Basin timber access road.
- (2) Excavation and grading on the 1st section (approx. 4 miles) of the Huntington Lake Highway.
- (3) Preliminary reconnaissance survey of the Patterson Mt. timber access road, the balance of the Chiquita Basin timber access road, and the final sections of the Huntington Lake highway.
- (4) Approximately 30 miles of private road under Special Use permit by logging companies, and Southern California Edison Company in connection with harvesting National Forest resources.
- (5) Replacement of Potter Creek bridge near Huntington Lake.

Table III

ORGANIZATION CHART

SIERRA NATIONAL FOREST - 1949

GENERAL MANAGEMENT
FOREST SUPERVISOR

Staff Functions & Divisions
Policy Preparation and Interpretation
Developmental Planning
Technical Direction of Rangers
Line Duties as Assigned.

Ranger District Functions and Units

General Management of Ranger District within frame
work of established policies and management plans -
Operational planning and execution.

District Ranger - Mariposa District

Headquarters - Mariposa

District Ranger - North Fork District

Headquarters - North Fork

District Ranger - Pineridge District

Headquarters - Big Creek

District Ranger - Kings River

Headquarters - Trimmer and Dinkey Creek

District Ranger - Minarets

Headquarters - North Fork

District Ranger - High Sierra

Headquarters - North Fork (Lakeshore-summer)

Staff Officer - Range and Wildlife Management

Staff Officer - Timber Mg't. & Land
Acquisition

Staff Officer - Fire Control-Recreation-Land
Use and Water Management.

Staff Officer - Engineering Services - Water
Control - Equipment Mg't.

Staff Officer - Business Mg't. - Budget -
Personnel - Information Services.

Maintenance of Existing Facilities:

Funds for this purpose were again below actual requirements. The result was sub-standard maintenance of many improvements and no maintenance on these in better condition. As usual, protection personnel were kept fully employed on maintenance work and other high priority Forest jobs. Current estimates of maintenance requirements show financing to be approximately 50% of full needs. Each year the backlog of deferred maintenance and the amount required to bring improvements back to standard is increasing.

VII. ORGANIZATION:

Responsibility and authority for land management within the Forest Service is highly decentralized. Basic organization provides for on the ground management through the territorial unit, or Ranger District. There are six Ranger Districts on the Sierra National Forest, averaging 220,000 acres each.

The organization chart Table III outlines the management responsibilities at Forest and District levels of administration.

There were 52 full time employees during 1949, and an additional 213 individuals employed on a seasonal basis. Principal seasonal work was centered on Blister Rust Control, Fire Protection, and Maintenance Activities.

Two fatalities occurred during the year. John E. Tuttle was killed falling snags, and Edward H. Bevis, an office worker died of natural causes.

Laughlin L. Feight joined the Forest as Range Management Staff Officer by transfer from the Shasta Forest

FINANCIAL STATEMENT

SIERRA NATIONAL FOREST

FOR THE FISCAL YEAR ENDING JUNE 30, 1949

CASH RECEIPTS

Timber Sales	\$384,261.19
Grazing of Livestock	20,109.05
Land Use	18,421.75
Power Permits - U.S.D.A.	<u>13,783.00</u>

\$436,574.99

Our receipts were 82% higher than the previous fiscal year and are approximately ten percent of the total receipts of all the National Forests in California. 25% of this money is returned to the Counties, on a net acreage basis in lieu of taxes. This apportionment was:

Fresno County	854,309	63.59%	\$69,412.64
Madera County	399,974	29.78%	32,497.90
Mariposa County	<u>89,024</u>	<u>6.63%</u>	<u>7,233.21</u>
	1,343,307	100.00%	\$109,143.75

Receipts per acre $\$436,574.99 \div 1,343,307 = .3254$

OTHER INCOME AND SERVICES RENDERED WITHOUT CHARGE

Diverted Receipts - Hydro-electric power developed under Federal Power Commission license from Sierra National Forest watersheds: \$72,000.00

Intangibles-Protection and management of the watershed of the central San Joaquin Valley to insure a maximum runoff of 3,000,000 acre feet annually @ fifty cents per acre foot 1,500,000.00

Recreation Use - An estimated 263,000 persons spent an average of four and one-half days each within the Forest, camping, hunting, fishing, etc., valued at twenty-five cents a day 295,875.00

Protection of forage and habitat for 41,000 California mule deer belonging to the State @ \$1.00 each 41,000.00
\$1,908,875.00

CASH EXPENDITURES FROM APPROPRIATED TREASURY

FUNDS

OPERATING EXPENDITURES

Unit Management	\$ 47,101.69
Timber Management	36,410.67
Insect & Disease Control	82,323.17
Range Management	4,778.42
Land Exchange	99.04
Recreation Use	5,594.75
Fire Prevention	105,095.80
Fire Suppression	20,781.81
Maintenance - Improvements	25,322.56
Maintenance - Truck Trails	71,995.98
Maintenance - Horse Trails	<u>15,383.50</u>

\$414,887.39

Operating Costs per acre $\$414,887.39 \div 1,343,307 = .309\phi$

INVESTMENT EXPENDITURES

Tree Planting	\$ 1,548.49
Dwellings	7,510.16
Construction of Truck Trails	404,795.92
Construction of Horse Trails	530.48
Equipment and Supplies	<u>7,155.23</u>

\$421,540.28

BALANCE SHEET

INCOME

Cash Receipts deposited with U.S. Treasury	\$436,574.99
Less 25% returned to Counties in lieu of taxes	<u>109,143.75</u>
Net Receipts retained by Treasury	327,431.24
Receipts by Federal Power Commission to Treasury	<u>72,000.00</u>
	399,431.24
Intangible services to State and Public	<u>1,908,875.00</u>
	\$2,308,306.24

EXPENDITURES

Cash expenditure for operating expense	\$414,887.39
Cash expenditure for investment accounts	<u>421,540.28</u>
	\$836,427.67

Annual Depreciation on Capitol Investment of
\$4,044,753.41 in roads and trails, structures,
communication facilities, recreation and range develop-
ments

\$172,541.09
\$1,008,968.76

Net Gain

\$1,299,337.48